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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10 006,567

12 10 2001

Jun Kotani

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05 06 2003

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EXAMINER

PENG, KUO LIANG

ART UNIT

PAPER NUMBER

1712

DATE MAILED: 05 06 2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/006,567

Examiner

Kuo-Liang Peng

Applicant(s)

KOTANI ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/10/01 Preliminary amendment
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-20 is/are rejected.
- 7) ☒ Claim(s) 9-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO 449)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO 449)
- 3) ☐ Interview Summary (PTO 476) (Agent's Use Only)
- 4) ☐ Notice of Informal Patent Application (PTO 152)

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DETAILED ACTION

1. The Applicants' preliminary amendment filed on December 10, 2001 was received.

Claims 1-8 are deleted. Claims 9-20 are added.

2. Applicant is advised that should claim 12 be found allowable, claim 13 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Objections

3. Claims 9-20 are objected to because of the following informalities:

In Claim 9 (lines 9-10) and Claim 18 (lines 12-13), should R² represents a methyl group only, because the reaction between the polyether oligomer comprising a structure of formula (2) and the reactive silicon group-containing compound of formula (3) results only in R² being a methyl group.

Claim 11 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The reason is described above.

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Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 17 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear as to whether "0.5 to 10%" is based on weight, volume, etc.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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6. Claims 9-13 and 17-18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hirose (US 4,593,068).

With respect to Claims 9-11, Hirose discloses a curing composition comprising a polyether having at least one reactive silicon-containing group, a polymer derived from (meth)acrylate (col. 2, line 34 to col. 5, line 28) and a curing catalyst (i.e., accelerator) (col. 9, lines 35-55). It is noted that c in formula (1) can be 1 (col. 2, line 68). Hirose further teaches that R^1 in formula (1) can be $-\text{CH}_2-$ (col. 2, line 64), R^2 in formula (1) can be CH_3 (col. 2, lines 65-66) and R^3 in formula (1) can be methyl (col. 3, line 29). Hirose further teaches the use of a method of synthesizing the polyether having at least one reactive silicon-containing group by hydrosilylating a polyether having an olefin group of the general formula (3) with a silicon hydride of the general formula (2) in the presence of a catalyst (col. 3, line 3 to col. 4 line 42). Furthermore, Reference example 1 illustrates one of the hydrosilylation reactions wherein no inert gas is used for blanketing the reaction mixture. Therefore, the reaction is carried out under atmosphere which is an oxygen-containing atmosphere. It is noted that Hirose's process for making the curing composition is very similar to Applicants' process, despite the fact that Hirose does not use the specific sulfur compound recited in the instant claim for preparing the polyether having at least one reactive silicon-containing group. Furthermore, Claims 9-11 are product-by-process claims. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process

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USPQ 964, 966 (Fed. Cir. 1985). "The Patent Office bears a lesser burden of proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. In re Fessmann, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983) "[T]he lack of physical description in a product-by-process claim makes determination of the patentability of the claim more difficult, since in spite of the fact that the claim may recite only process limitations, it is the patentability of the product claimed and not of the recited process steps which must be established. We are therefore of the opinion that when the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, a rejection based alternatively on either section 102 or section 103 of the statute is eminently fair and acceptable. As a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith." In re Brown, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972).

With respect to Claims 12-13, Hirose further teaches that in formula (1), m can be 0, and the hydrolyzable silyl group can be derived from methyldimethoxysilane via hydrosilylation (col.

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With respect to Claim 17, Hirose is silent on the specific oxygen concentration recited in the instant claim. However, the aforementioned product-by-process argument still applies here.

With respect to Claim 18, Hirose further teaches a method of adhesion of an adherend, which comprises applying the aforementioned curable resin composition to said adherent, allowed to stand in the air to develop tack in the adhesive layer, and conducting adhesion of said adherends during the tack is retained in the adhesive layer (col. 10, lines 35-55 and Example 2).

7. Claims 9-13, 16 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirose in view of Medsker (US 6,150,464).

Hirose discloses a curing composition as described in paragraph 6, which is incorporated herein by reference.

With respect to Claims 9-11, the difference between Hirose and the present invention is the requirement of the specific sulfur compound recited in the instant claims.

It is well known that a sulfur-containing compound is used in hydrosilylation reaction. For example, Medsker teaches the use of a Lewis base such as thiols or sulfides for hydrosilylation. The motivation is to substantially promote the efficiency of a platinum catalyst used for hydrosilylation (col. 10, lines 36-64). In light of the aforementioned benefit, it would have been obvious to one of ordinary skill in the art at the time of invention to add thiols or sulfides into Hirose's hydrosilylation system, and thereby obtain the present invention.

With respect to Claims 12-13, Hirose further teaches that in formula (1), m can be 0, and

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With respect to Claim 16, Medsker further teaches the use of the thiols or sulfides in an amount of less than 500 ppm (col. 10, lines 25-64).

With respect to Claims 18-19, Hirose further teaches a method of adhesion of an adherend, which comprises applying the aforementioned curable resin composition to said adherent, allowed to stand in the air to develop tack in the adhesive layer, and conducting adhesion of said adherends during the tack is retained in the adhesive layer (col. 10, lines 35-55 and Example 2).

8. Claim 17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Medsker as applied to claims 9-13, 16 and 18-19 above, and further in view of Kleyer (US 5,359,111).

The difference between Hirose and the present invention is the requirement of the specific oxygen concentration recited in the instant claim.

It is well known that hydrosilylation can be carried out in an oxygen-containing atmosphere. For example, Kleyer teaches the use of oxygen in a hydrosilylation process in an amount of 1 to 5 wt% (col. 8, lines 28-36). The motivation of using oxygen during the hydrosilylation is to control the reaction rate, etc. (col. 2, lines 46-55). In light of the benefit mentioned, it would have been obvious to one of ordinary skill in the art at the time of the invention to prepare Hirose's polyether having at least one reactive silicon-containing group in the presence of oxygen in an amount of 1 to 5 wt%, and thereby obtain the present invention.

With respect to Claims 9-16, Kawamura discloses a coating composition containing an oxyalkylene polymer having a silicon-containing group represented by formula (I), more preferably formula (II) by hydrosilylating an oxyalkylene polymer having an unsaturated group of formula (IV) with a hydrosilane compound of formula (III) (page 2, line 17 to page 3, line 30), a copolymer of an alkyl (meth)acrylate having C₁ to C₈ in the alkyl moiety thereof and an alkyl (meth)acrylate having C₁₀ or more in the alkyl moiety thereof (page 4, lines 10-14) and a curing catalyst (i.e., accelerator) (page 5, line 56). Furthermore, Synthesis example 1 illustrates one of the hydrosilylation reactions wherein no inert gas is used for blanketing the reaction mixture. Therefore, the reaction is carried out under atmosphere which is an oxygen-containing atmosphere. Kawamura further teaches that the aforementioned copolymer can further contain a moiety derived from a (meth)acrylic comonomer containing a reactive silicon group (page 5, lines 9-50). It is noted that Kawamura's process for making the curing composition is very similar to Applicants' process, despite the fact that Kawamura does not use the specific sulfur compound recited in the instant claim for preparing the polyether having at least one reactive silicon-containing group. Furthermore, Claims 9-16 are product-by-process claims. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process" *In re Thorpe*, 777 F. 2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Obviousness for product-by-process claim: *In re Thorpe*, 777 F. 2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

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is claimed in the conventional fashion. In re Fessmann, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983) "[T]he lack of physical description in a product-by-process claim makes determination of the patentability of the claim more difficult, since in spite of the fact that the claim may recite only process limitations, it is the patentability of the product claimed and not of the recited process steps which must be established. We are therefore of the opinion that when the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, a rejection based alternatively on either section 102 or section 103 of the statute is eminently fair and acceptable. As a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith." In re Brown, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972).

With respect to Claim 17, Kawamura is silent on the specific oxygen concentration recited in the instant claim. However, the aforementioned product-by-process argument still applies here.

10. It is notice that the reference "JP 263478" cited in the PTO-1449 form filed on December

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuo-Liang Peng whose telephone number is (703) 306-5550.

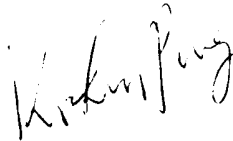
The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Dawson, can be reached on (703) 308-2340. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Kuo-Liang Peng

May 2, 2003

A handwritten signature in black ink, appearing to read 'Kuo-Liang Peng', is written over the typed name and date.